

The Participatory Turn in UK Radioactive Waste Management Policy

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1. Introduction

The history of radioactive waste management policy in the UK has, in common with many other countries, been one characterised by crisis. A study of UK radioactive waste management (RWM) policy published in 1991 begins with the claim that “What is distinctive about the British context is that crisis has not produced new commitments to resolving the problems of radwaste management” [1]. As this paper will illustrate, current activity suggests that this assertion no longer holds true. Rather, the UK has witnessed a renewed commitment to addressing the problem accompanied by a significant shift in approach to RWM decision making. This shift was precipitated by the failure in 1997 of the technocratic strategy that hitherto had been pursued by government and by the nuclear industry but has also been influenced by a number of other contributory factors. What we now see in the UK is a proliferation of stakeholder involvement (SI) initiatives in the RWM and related fields, a situation that poses new questions and potentially new problems. In this paper we outline the historical developments that preceded this change, examine the current situation and finally review the question of whether this reconfigured landscape of SI amounts to a radical shift in policy and practice that has produced, or is likely to produce, new commitments to resolving the problems of RWM.

2. A History of Technocratic Failures

The history of British efforts to develop a long-term solution for radioactive waste management has been through several phases, each of which has culminated in failure. In this section we outline very briefly the main phases and events and comment on the pattern that emerged.

2.1. 1945-1975: Britain's nuclear programme and radioactive waste

In the period immediately following World War II, the UK's nuclear activity was directed towards the development of a nuclear weapon. This led to the construction of nuclear reactors together with facilities for fuel production and reprocessing at Windscale (now known as Sellafield). A civil nuclear programme was subsequently developed, with successive phases of construction through the 1950s and 1960s.

In 1954 the UK Atomic Energy Authority (UKAEA) was established to research and develop nuclear energy. Part of its remit was to investigate the problem of RWM. The urgency of early nuclear developments, which made a significant contribution to the legacy of radioactive waste, meant that little thought was given to the future processing and disposal of wastes [2].

Some sea disposal did take place and solid wastes were dumped at various locations around the British Isles. By the late 1950s, however, it was recognised by scientists within the UKAEA that it would be unacceptable for this to continue over the long term [3]. In 1957 a former munitions site located at Drigg, 6km southeast of what is now the Sellafield site in West Cumbria, was designated for LLW disposal. There was however no overall national strategy for long-term management and disposal of other radioactive wastes.

2.2. 1976-1981: The HLW repository geological research programme

A key moment in the framing of the radioactive waste issue in the UK came in 1976 when the Royal Commission on Environmental Pollution (RCEP) expressed serious concerns [4]. The RCEP made clear that it held Government responsible for the lack of progress in this area and called for a national disposal facility. By that time the UKAEA had begun to search for geologically suitable sites for a HLW repository, focusing its attention on Scotland's Highlands. Its attempt to conduct drilling investigations at Mullwharchar Hill in Ayrshire triggered intense local opposition. UKAEA's appeal to the Scottish Secretary of State against the Council's refusal of its planning application led in 1980 to the UK's first public inquiry on the disposal of radioactive waste. The public inquiry, an inherently adversarial setting, is the main institutional arena within which public concerns about specific

development proposals can be considered but it treated the issue as a local planning dispute rather than one arising from Government policy. UKAEA's attempt to frame the issue solely as one of scientific investigation rather than potential repository siting was unsuccessful and the inquiry upheld the Council's decision. Importantly, the Mullwharchar inquiry was also seen as highlighting the secrecy with which UKAEA conducted its activities, a characteristic that was to be associated with future attempts at repository siting. This early skirmish established the pattern for subsequent failed attempts to conduct investigations at other sites around the UK, most not coming to public inquiry but all engendering local opposition. In December 1981 UKAEA abandoned its drilling programme in favour of desk research.

2.3. 1982-1987: Nirex and the shallow LILW programme

1982 saw the establishment of the Nuclear Industry Radioactive Waste Management Executive (NIREX) to oversee waste disposal. Rather than the completely independent statutory body that the RCEP had called for in its 1976 report, NIREX was funded directly by the nuclear industry and other waste producers, an arrangement with important consequences for its subsequent relationships with stakeholder groups [5]. It was also to be responsible for finding long-term management solutions only for intermediate-level waste (ILW) and the small amount of low-level waste (LLW) unsuitable for disposal at Drigg. In 1985 the organisation became a limited company – United Kingdom Nirex Limited (Nirex) – although its funding arrangements did not change. The establishment of Nirex saw a new phase in the search to identify suitable locations for a national repository.

Against a backdrop of increasing public disquiet about nuclear issues, Nirex's proposals proved no less controversial than those of UKAEA before it. The process by which the two initial sites, Billingham (Teesside) for the disposal of long-lived ILW and Elstow (Bedfordshire) for short-lived ILW and LLW came to be identified in 1983 was seen by critics to have been rushed and flawed [6]. In 1984 the Government finally published a national RWM strategy document, confirming its commitment to the development of both shallow and deep repositories as part of an overall national RWM strategy but opposition to the Nirex investigations was by this time already established. Investigations at Billingham were abandoned in 1985 when the site owners withdrew consent in response to the strength of local concern.

Eventually, in 1986, the Government announced that Nirex, armed with Special Development Orders (SDOs) that avoided the need for planning permission and therefore the inevitable public inquiries, would investigate four sites for near-surface disposal of LLW: Elstow, Bradwell (Essex), Fulbeck and South Killinghome (both Lincolnshire). Again Nirex encountered sustained and co-ordinated local opposition, while its neglect of its relations with local authorities fuelled distrust and a tendency towards non-cooperation [5]. Government eventually abandoned the programme in May 1987. The justification for this decision was that the additional costs necessary to respond to public concerns made the exercise uneconomic. An alternative view was that, with a General Election just a month away, the unpopular siting programme was dropped for reasons of political expediency [7]. However, the rationale offered by government, whether cynically or not, also signalled that local stakeholder concerns should be factored in to the decision process – and could even be sufficient reason for abandoning a particular strategy.

2.4. 1987-1997: The ILW deep disposal programme

In 1987, with Government agreement, Nirex change its strategy: all LILW for which Nirex was responsible would be disposed of in a single deep repository [8]. It has been argued that the main reason behind this change was Nirex's recognition of the difficulties in gaining public acceptance which had dogged its attempts to investigate the four potential shallow disposal sites [9]. One important consequence of recognising the need to secure public acceptance was that the first steps were taken towards a more participatory mode of decision making. In November 1987 Nirex launched a consultation exercise which sought to promote public understanding of the issues involved and canvass views. Between November 1987 and June 1988, it distributed 50,000 copies of a discussion document setting out its proposals for a deep waste repository. The document presented three engineering concepts and considered the hydrogeological environments suitable for disposal, providing a base map of the UK showing the areas of geological suitability. Responses showed no overall consensus favouring any particular engineering approach or location. It did, however, highlight concerns about the possible retrievability of wastes from a deep waste repository, an issue that was to resurface a decade later. The results also underlined the linkage between geography and public acceptance: locations with existing nuclear facilities were the only areas in which Nirex's proposals drew a measure of local support. However, as in earlier phases, many respondents were worried about stigma effects created by the perceived risks. Despite its consultative approach, the technocratic design of Nirex's

programme was criticised by anti-nuclear groups and other bodies. Importantly, consultation took place after the deep disposal option had been agreed by Nirex and the Government, exemplifying a decision making process that lacked transparency, and was conducted by an organisation that inspired intense public distrust [5].

Indeed, as the consultation process was continuing, Nirex was already engaged in identifying suitable locations for a deep repository. It began in 1987 with a long list of 537 sites spread widely across the country. This list was reduced through several filtering stages to a list of 10 potential sites, two of them at Sellafield. Following a formal multi-attribute decision analysis (MADA) process Nirex announced in March 1989 that sites at Sellafield and Dounreay would be the focus of future investigation through a small surface drilling programme [10]. In the light of evidence given at the subsequent public inquiry, however, others have argued that the Nirex Board made its decision on the basis of an assumed 'measure of support' at these existing nuclear industry sites, rather than on the basis of its MADA [11]. In 1991 Sellafield was identified as the only site to be investigated. Nirex considered both sites to have potentially suitable geologies but a large percentage of the waste was already located at Sellafield so that risks and costs associated with transport of waste would be lower there.

Nirex applied in June 1994 for planning permission to construct a Rock Characterisation Facility (RCF): the application was rejected by Cumbria County Council. Nirex appealed against the decision and this resulted in a Public Inquiry which concluded in February 1996 by upholding the Council's decision. The County Council built its case around the position that this was "a poor site - chosen for the wrong reasons"; witnesses for Friends of the Earth and Greenpeace also challenged the scientific case presented by Nirex [12]. The Secretary of State confirmed the inquiry's conclusions in March 1997 (again just before a General Election), agreeing on the unsuitability of the site and accepting the need for full disclosure on site selection in any future applications for RCF development. Twenty-one years after the RCEP had expressed concern about the lack of a disposal route for the mounting volumes of ILW, the collapse of Nirex's Sellafield investigations had once again left the UK without a clear strategy for the disposal for its more active wastes.

Perhaps the greatest irony of this episode is that the community around Sellafield might well have displayed a 'measure of support' had Nirex handled the process better. As it was, Nirex was perceived to be arrogant and inconsiderate of local sensibilities and concerns, resulting in hostility that is still evident amongst local people. The local Member of Parliament was recently reported as saying that "Nirex [...] neither inspires trust nor possesses credibility. [...] I cannot see any future for Nirex in West Cumbria or elsewhere in Britain and I believe that the community shares this view." Similarly, if less forcefully, the leader of Copeland Borough Council, the local authority for the Sellafield area, has commented that "I and the local community see [Nirex] as slightly tainted"[13]. This hostility was an expression of the crisis of legitimacy faced by the siting programme; that it came from the UK's largest 'nuclear community', at which the bulk of the waste is located, was a cause for deep concern.

3. 1997-2005: The Participatory Turn

The brief history that has been recounted highlights the gulf that existed between the views of those attempting to take forward this technocratic policy programme and those of the communities which stood to be affected by the implementation of the programme. In each successive phase, communities were not consulted about involvement in the programme. Attempts at site investigation were presented to communities and to local planning authorities as being 'research' activity and quite distinct from any proposals for repository construction that might ensue. The view of those local communities was that the two things could not be separated and that it would be naïve - and ultimately disastrous - for them to open the door to such developments. Where the technical experts were focused on the capacity of the physical characteristics of potential sites to ensure safety, local people were concerned about the impacts on the community - landscape impacts, disruption to the community, stigma effects and psycho-social impacts upon local residents. We can see, however, despite these differences of perspective, evidence of a creeping awareness of the importance of the social dimensions of any potential siting programme. Whereas the UKAEA's drilling programme in the late 1970s ended with a withdrawal to the office, the failure of the 1980s programme ended with the hint of recognition that local concerns needed to be addressed. Nirex's programme in the 1990s attempted to engage with communities through its Way Forward consultation in what, retrospectively, can be seen to be a rather technocratic manner. Nevertheless, its approach represented a shift from site selection framed solely in terms of geological suitability to a process framed also (if only tacitly) in terms of social acceptability. The shift to a 'socio-technical' framing of RWM strategy was not, therefore, something that came out of nowhere following the collapse of the Sellafield investigations. Nevertheless, that was the crisis event that precipitated a thorough rethink of the overall approach to RWM policy.

3.1. The Government's policy process: 'Managing Radioactive Waste Safely'

Following the events of 1997 the House of Lords Select Committee on Science & Technology undertook a review of policy on RWM. After taking evidence from a wide range of organisations, it considered a number of disposal options and its report, published in 1999, concluded in favour of deep geological disposal. It called for Government action to take this forward with the necessary public consultation. Earlier that same year a national consensus conference on RWM had been held; its conclusions were a little more cautious about deep disposal and, echoing views expressed by stakeholders responding to Nirex's Way Forward consultation a decade earlier, it called for a solution which incorporated extended monitoring of the facility and ensured the continued retrievability of the waste. It was in 2001 that the UK Government and the Devolved Administrations of Scotland, Wales and Northern Ireland responded to the radioactive waste policy vacuum with a new consultative process, Managing Radioactive Waste Safely (MRWS). The aim of the process is to develop and implement a UK nuclear waste management programme which inspires public support. The initial consultation proposed a major programme of research and public discussion that aimed to involve as many people and groups as possible from an early stage in decision making: "We want to inspire public confidence in the decisions and the way in which they are implemented. To do that, we have to demonstrate that all options are considered; that choices between them are made in a clear and logical way: that people's values and concerns are fully reflected in this process; and that the information we provide is clear, accurate, unbiased and complete"[14].

Rather than continuing with the deep disposal strategy pursued by Nirex in the 1990s and endorsed by the House of Lords report, therefore, the MRWS process went back to basics: it is organised in four stages. Stage 1 of the process involved a consultation on the scope of the problem and how people wanted to be involved in debate. In Stage 2, the current stage, a new advisory body, the Committee on Radioactive Waste Management (CoRWM), was established in November 2003. CoRWM's main task is to evaluate the available options for long-term management or disposal and to make a recommendation to Government. Its remit covers much of the waste inventory (primarily ILW but also some LLW not suitable for disposal at Drigg, HLW and some materials not currently classified as waste: spent fuel, uranium and plutonium) but does not include VLLW and most LLW. Although implementation of a specific option is not part of its remit, it is mandated to consider general issues affecting implementation. Its original terms of reference required it to report to Government by the end of 2005. By March 2004, however, the Committee's members had decided that three years were needed to enable them to complete the task. A compromise was made and CoRWM adopted a four phase programme that was to run from March 2004 to July 2006.

During Phase 1 of its work, which ran from March – Sept 2004, CoRWM spent a considerable amount of time considering the principles affecting its deliberations as well the process that it should adopt. For some outside observers, there seemed to be frustratingly little progress towards commencing its main task; for members there were fundamental questions about its work that needed to be debated and agreed if it was to fulfil successfully the role that it had been given. Controversially, CoRWM members decided to begin "with a blank sheet of paper" by considering all possible options for long-term management or disposal of the wastes. This decision elicited criticism from a Parliamentary Committee that had previously reviewed RWM options and from others who felt that the case for eliminating most of these options had already been made. Central to this phase was the design of the public and stakeholder engagement (PSE) activities in which it would engage.

Phase 2 of its programme, from Oct 2004-July 2005, first involved a process of engagement (PSE1) in which it consulted on the long list of options and proposed screening criteria and invited input from stakeholders. In November 2004, it classified the fifteen options being considered into three categories. It then proceeded to an initial short-listing of waste management options. PSE2 enabled stakeholders and members of the public to review the short-list and the proposed assessment process, to comment on ethical issues relevant to assessing options, and to raise issues on combining and implementing options. At the end of this process, CoRWM announced in August 2005 a short-list of four options:

- Long-term interim storage
- Deep geological disposal
- Phased deep geological disposal
- Near-surface disposal (for limited volumes)

Phase 3 of its work, which extended from August 2005-March 2006, again involved public and stakeholder participation in a process of options comparison and assessment (PSE3), in which stakeholders and members of the public were invited to discuss the short-listed options and any issues that they raised. Following this phase of deliberation the Committee entered Phase 4, the final phase of its work, which runs from April – July 2006, in which it will decide upon its recommendations. The Committee plans one short, final phase of consultation on its draft recommendations, which will take

place in May 2006. Phase 4 will conclude with the submission of CoRWM's final report to the Government, which will then make a decision about the recommended option or options. At that time, it will also review the structures necessary to implement the policy, including the future role and constitution of Nirex. CoRWM's PSE programme is the most elaborate and extensive to have been carried out for this kind of policy issues, going further, for example, than the previous national debate about genetically modified crops. It has included an extremely diverse repertoire of mechanisms including: national stakeholder events, local stakeholder Round Tables and open meetings in areas where there are already nuclear facilities, citizen panels and web consultation. Importantly, it has also included independent evaluation of the various phases so that the Committee can learn from experience and stakeholder feedback as the process has evolved. Overall, CoRWM has attempted to establish a high degree of reflexivity about its own assumptions and activities in a way that could not contrast more greatly with the technocratic approach taken in the past. Despite some internal differences about the approach taken, which centred to a great extent on the emphasis given to stakeholder participation, CoRWM's approach appears to have established its credibility with many stakeholders.

The completion of CoRWM's current work programme brings to an end Stage 2 of the MRWS process. It is planned that Stage 3 of MRWS will take place around late 2006 or into 2007 and will consist of a consultation on how to implement the chosen option(s), which will include the site selection criteria and process. After the false starts and ignominious failures of the past, it is seen as essential that the new site selection process and criteria that are used to evaluate the sites are developed through a national consultation process if they are to produce an outcome that can be implemented. Finally, sometime around 2007 or 2008, it is intended that MRWS will enter Stage 4, which will involve implementing the chosen option(s). This, the most politically sensitive stage, will of course be the real test of the process. Although there appears to be general agreement on the need for a solution to be both technically and socially robust, fault lines may still be traced through this sometimes uneasy consensus. The 'right balance' between technical and social considerations is different for different actors and, although none would abandon either, results in evident tensions.

The tensions experienced by stakeholders in the nuclear policy arena extend beyond those between technical and social considerations. In order to appreciate some of the pressures on stakeholders, it is necessary to set the Government's response to the policy crisis in the context of other developments that collectively represent the wider 'participatory turn' referred to in the title of this paper.

3.2. Wider context: participatory proliferation

If the radioactive waste arena prior to 1997 was characterised by a technocratic approach, since that date we have seen across the sector a more general turn to participatory engagement activities and processes. Central to this development is the figure of the 'stakeholder'. Where once it was only corporations who spoke of 'stakeholder relations', however, and governments dealt with 'interest groups' or 'citizens', now these too are viewed as 'stakeholders' in policy arenas. This migration of discourse and practice from the corporate to the political sphere involves a politically significant shift from the explicitly adversarial language of interest politics to the implicitly collaborative language of stakeholding, in which all relevant actors are seen to be potential partners in a common enterprise. This discursive shift has been accompanied by the diffusion of associated modes of practice notably that of 'stakeholder engagement'. In the nuclear arena we find these developments appearing first in the private sector (albeit one that was at the time publicly owned) and subsequently being adopted in the public policy sector. Within the constraints of this paper only a very brief outline of these developments is possible but it will convey a sense of the range of activity that has been taking place.

The longest running process was the BNFL National Stakeholder Dialogue (NSD), an independently facilitated process that ran from 1998-2004 and which involved stakeholders in both wide-ranging and extremely detailed discussions about the company, its operations and its future. BNFL had been criticised for many years and hitherto had been very defensive in its response. The NSD was unique in scale and scope. Over its lifetime it involved more than 70 organisations and 150 individuals in dialogue with BNFL. Although the two main national environmental NGOs active in this sector, Friends of the Earth and Greenpeace, withdrew from involvement, the NSD achieved an unprecedented degree of sustained participation from a wide range of stakeholders and addressed issues that ranged from environmental impacts to security to the socio-economic consequences of the progressive decommissioning of operations at the Sellafield complex. Importantly, this process also had a considerable influence on many of those who participated, leading many to revise their view of traditional opponents as they found themselves working together to address problems of common interest. The NSD was therefore important both as a model that demonstrated that positive working relations could be established in the nuclear sector between organisations and the diverse range of interests with which they had relationships, even where such relationships had in the past been soured

by bad experiences. BNFL also built positive relationships with an extended local dialogue and joint investigation of environmental health and safety at the Cricklewood train marshalling yard in London, where spent nuclear fuel flasks was held while in transit to Sellafield. Another BNFL-sponsored dialogue on Magnox decommissioning, initiated in 2000, became more conflict-riven and lost momentum but after a reaffirmation of support by key stakeholders in 2003 continued to operate. One other significant industry development came from UKAEA which, as we have seen, also had a history of taking a technocratic approach but which took the step in 2002 of establishing the Dounreay Stakeholder Programme in response to criticisms of its handling of consultations over its Site Restoration Plan. Although the independent evaluation of the process was not completely uncritical, the DSP has come to be seen by industry stakeholders elsewhere as an example of good practice.

Nirex also has been embraced a participatory approach to its work. The rejection of the RCF proposal and the legacy of mishandled decision-making ultimately led to a crisis of legitimacy for Nirex, as a result of which the company embarked upon a period of intensive organisational reflection and change. This review resulted in the company committing itself to three principles which would guide its operations in future: *equity* (ensuring fairness to current and future stakeholders), *competence* (ensuring that the science and technology are correct, robust and safe), and *efficiency* in the use of resources [15]. Of these it is equity that Nirex argues was lacking in the UK's previous attempts to implement a long-term solution. Nirex has therefore reframed RWM as an *ethico*-technical issue, insisting on an ethical approach that directly addresses the values that should underpin any decision taken. It set up a Transparency Policy with monitoring by an independent panel and committed itself to acting in an open and inclusive way and providing stakeholders with opportunities to influence its research and decision making. Along with this Nirex established a Stakeholder Involvement Programme which has used a range of consultation mechanisms to engage stakeholders. One tangible outcome to emerge so far from this programme is that, in response to stakeholder concerns, Nirex modified its deep disposal engineering concept to incorporate monitoring and retrievability. The revised concept, termed phased geological disposal, was presented for discussion to a series of stakeholder workshops convened by Nirex in 2000, 2001 and 2002. Nirex has been at pains to demonstrate that it had changed and was not only willing to engage in dialogue but also to try to address stakeholder concerns in its technical work. This process of stakeholder involvement has not been limited to the deep disposal concept and Nirex has held discussions and participatory events on a range of RWM issues since that time.

Finally, it is not only the nuclear industry that has been working to shed its image of secrecy and arrogance. Faced with the problem of finding an interim solution, pending the agreement and implementation of a national RWM strategy, for nuclear submarines that had reached the end of their operational life, the Ministry of Defence (MOD) extended its Interim Storage of Laid-Up Submarines (ISOLUS) project to include an independently run process of stakeholder engagement, conducted in two phases in 2001 and 2003. Again, although there have been criticisms of aspects of the process, the striking thing is that even the defence sector has turned to stakeholder participation in order to try and deliver decisions on RWM that are seen as having legitimacy and can be implemented.

One of the major developments that is shaping the political landscape in which the problems of long-term RWM are set is the UK's programme for decommissioning its existing nuclear facilities. The process of closing down and decommissioning the older generation of nuclear power stations has already begun. By 2014, all but three of the UK's existing nuclear power reactors will have closed down for decommissioning. Of the remainder, two are planned for closure in 2023 and the final one in 2035. Added to this are other nuclear sites such as Dounreay in Scotland and, most notably, Sellafield. In April 2005 the Government established a Nuclear Decommissioning Authority (NDA) to take over ownership of the decommissioning sites and to manage the process. To prepare the way for the NDA coming into existence and to help inform its programme, the Department of Trade and Industry set up a Liabilities Management Unit which from 2003 conducted a programme of stakeholder involvement activities at affected sites around the country. Following April 2005 the NDA itself took up this process, widening the range of stakeholders participating in the local community liaison committees at decommissioning sites and also establishing a National Stakeholder Forum. Although it is perhaps too early in the process to be able to evaluate the NDA's stakeholder participation programme, it adds another strand to the emerging web of stakeholder activity.

Finally, the Government, through the Department of Environment, Food and Rural Affairs, and the Devolved Administrations decided in 2005 to initiate a review of policy on LLW. Although a policy framework already exists for LLW, the decommissioning programme will generate extremely large volumes of LLW for the disposal of which provision needs to be made. At the same time, non-nuclear users such as hospitals face difficulties finding a ready and affordable disposal route for their LLW and had been pressing Government to address the problem. Given that the existing disposal facility at Drigg cannot take all forms of LLW and that in any case its future capacity is limited, a review was deemed

timely. The public consultation announced in January 2006 was preceded in 2005 by two national stakeholder workshops in which the issues for inclusion in the consultation paper were identified and a draft paper developed and discussed. Although NGO participation was limited this ensured that stakeholder input was not confined to the usual period of public consultation that follows the publication of policy proposals but was sought in the early stages of policy development.

3.3. Problems of the participatory turn

The brief description that has been given highlights a number of trends. First, it shows that after decades of technocratic secrecy we now have in the UK nuclear sector a profusion of stakeholder engagement processes, sponsored both by government institutions and private sector organisations, often involving many of the same stakeholder groups and individuals, and each focused on different aspects of RWM and related issues. Second, whilst there have been a number of ad hoc or short term events (workshops, consultations, etc.), there have also been a number of much more sustained processes of engagement. Third, several initiatives have sought to draw together inputs from both organised stakeholders and the general public to inform key decisions at both national and local levels. Many stakeholders see the current situation as evidence of progress and see real benefits in the changed relationships between actors in RWM. However, this proliferation of activity does bring with it a number of new problems and tensions. We have identified five issues raised by stakeholders: (i) the strains created by the demands placed on limited stakeholder capacity are for some organisations and individuals becoming difficult to manage; (ii) there is an associated problem of participation fatigue or exhaustion resulting from the demands on stakeholders called to participate in multiple processes, which is seen by some NGO critics as a cynical strategy of attrition designed to co-opt and wear down potential opposition - and both of these problems increase the risk of stakeholder withdrawal; (iii) concerns about the problem of policy fragmentation that may result if problems seen by stakeholders as being closely interrelated are addressed in a piecemeal fashion; (iv) questions of representation and of how those who participate relate to particular constituencies while at the same time becoming increasingly professionalised insiders as stakeholders; and finally (v) the extent to which these stakeholder processes can be shown to have an influence over institutional outcomes. These issues are only listed here but each poses a challenge to the current participatory turn and taken together they suggest that there is no room for complacency on the part of those authorities which have adopted these new approaches to address the historically conflictual problems associated with RWM.

4. Conclusion

Despite the difficulties described, our account suggests that we may need to reconsider the view that “What is distinctive about the British context is that crisis has not produced new commitments to resolving the problems of radwaste management” [1]. Whilst this may have been true at the end of the 1980s, following the failure of the Sellafield RCF proposal in 1997 there has been a clear change in approaches to RWM policy in the UK. Unlike previous crises, the RCF failure seems to have stimulated a shift from a technocratic to a more socio-technical approach. The initiation of the MRWS process and Government’s determination to keep it on track also seem to confirm a newfound commitment to resolving the problem, although the real test of political will and of institutional learning - the politically sensitive issue of siting - has yet to come. Similarly, the Government’s decision to set its reviews of LLW policy and of energy policy (notably the role of nuclear power) to the same reporting deadline as CoRWM suggests a move towards a more ‘joined up’ approach to these interrelated policy issues may be seen as an attempt to address the problem of policy fragmentation, although it makes a link that is not necessarily welcome to those who have attempted to maintain a pragmatic separation between the politically controversial issue of new nuclear power construction and the problem of long-term waste management. Whether the participatory turn is seen as evidence of institutional learning and adaptation or as strategic behaviour, it creates new opportunities for stakeholders. Nonetheless we conclude by raising some questions about these changes.

In the previous section of the paper we pointed to a number of issues that have emerged from this new, participatory approach to radioactive waste policy. These are not new issues: issues of resourcing, for example, were raised in relation to stakeholder participation in large public inquiries when they were the primary institutional mechanism for stakeholders to engage with key policy decisions about major projects [16]. Although there is evidence of new-found political commitment to addressing the problem, therefore, the participatory turn in UK RWM policy is far from being unproblematic. Following the failures of the late 1980s, Kemp observed that: “The track record of the nuclear industry is such that any attempt to develop forms of public participation, without tackling underlying structural and institutional problems, will be seen as a sham, false participation or a legitimisation exercise” [5].

Despite the efforts that have now been made to engage in a constructive way with stakeholders, it is not clear that those underlying structural and institutional problems have been adequately addressed. Certainly, the problem of the much criticised ownership of Nirex was addressed when Government set up a Company Limited by Guarantee to take Nirex's shares from the waste producers, so that from April 2005 Nirex became independent of the nuclear industry. Nevertheless, there are still a number of issues that warrant further investigation.

First, we have highlighted a number of issues but need to look more closely at the consequences, both positive and negative, that the widespread turn to participation has had on the radioactive waste arena both as a field of political contestation and of socio-technical practice.

Second, although institutions recognise the need to be seen to be responsive to stakeholders, they also operate under a variety of constraints: our work so far suggests that there may be a need to demarcate more clearly the potential for and limits to stakeholder influence, without which attempts at participatory decision making are likely to raise expectations that cannot be met. However, this also raises the question of the extent to which current participatory practices represent a qualitative break with the traditional consultative approach to decision making.

Finally, there is an important question of institutional context. The UK Government is engaged in a wide-ranging programme of reform of government institutions and practices. We therefore need to examine more closely the extent to which these wider processes of change either facilitate or obstruct stakeholder involvement and effectiveness of that involvement in the policy process.

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